



# California

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# THE EDITORS SAY:

## Research and the Critics

**A**N EPIDEMIC of an unusual type seems to be sweeping the country. Unlike most epidemics that spring up and spread through personal contact, the epidemic we have in mind is planned in the minds of persons who desire to undermine public confidence in our system of public elementary and secondary schools. The effectiveness of their work is evidenced by what happened at Pasadena and several other places. The epidemic is nationwide in scope and, unless checked, may become a serious obstacle in blocking the efforts of educators to provide a sound program of modern education.

Where does research fit into this picture? Medical research brought forth preventative measures which have to a large extent eliminated many of the epidemics in the area of communicable diseases. Can educational research perform a similar service for public education? We believe that it can! But it cannot take the place of a good public relations program.

Our attention was recently called to a situation in one of the larger school districts of California. A politically ambitious citizen, hoping to gain some additional local support, reported to the press that the schools were poisoning the minds of boys and girls by presenting communist propaganda through the guise of standardized tests. Headlines immediately appeared in the local newspapers. Interested patrons began to raise questions. Then the school research department went to work to answer the critics.

Although the test in question was widely used and highly regarded, the indictment suggested the wisdom of making a careful investigation of the composition and validation of the measuring instrument. It was discovered, in the process, that the section of the test which had given rise to the indictment was intended to measure the student's skill in critical thinking and ability to recognize disguised propaganda. The test items used had all been drawn from reputable sources and standard references. Furthermore, the same tests are being used in the armed forces and in major school systems throughout the nation. The research also revealed that some of the "objectionable" test items, which were said to be subversive, do not appear in the tests.

In defense of the "disguised propaganda" section of the test, the president of the publishers aptly remarked: "Every sensible man who has honestly studied the problem of communism in the United States knows

—Continued on Page 24



# Research: Education's Gibraltar\*

HERBERT S. CONRAD

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THE title of this address reflects the imaginative genius of your program chairman. I am not sure whether the characterization of research as "Education's Gibraltar" is intended to express an accomplished fact, a fervent hope, or a persistent question. If it is not heresy to do so in this audience, let me point out that the system of free public education in the United States developed from an enlightened political philosophy happily associated with economic growth and well-being; research played no part in this. But that was long ago — long before the birth of educational research as we now know it. In recent years educational research can claim more credit; and it may be both pleasant and profitable, in this brief after-lunch period, to review a few of the advances in education that are based at least in part on research.

1. At the head of the list, I should say, is the recognition and emphasis given by educational research to individual differences among pupils. In an educational system reaching out to millions, individual differences represent a very inconvenient and expensive fact. Educational research has helped to prevent this fact from being altogether submerged by demands for economy, and by the specious rationalization of "equal" treatment for all.

2. Research has struck effective blows at the assumption and doctrine of "formal discipline." We still have to struggle with the view that a hard subject, unpleasantly taught, will yield manifold blessings, ranging from

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\* This paper was presented at the "Third Annual State Conference on Educational Research," Santa Barbara, California, October 19, 1951. The views expressed in this paper are those of the author, and do not necessarily reflect the policy of the Office of Education, Federal Security Agency.

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*Dr. Herbert S. Conrad, before joining the staff of the U. S. Office of Education, had taught and done research work at Columbia University, University of California (Berkeley), University of California at Los Angeles, and the University of Oregon. He also served as research associate and technical consultant for the College Entrance Examination Board, and as chief of examination methods and statistical analysis unit, U. S. Civil Service Commission. He has been in his present position since 1948. Dr. Conrad attended Cornell University, Columbia University, and the University of California, Berkeley. His Ph.D. was awarded in 1931. He has contributed to many of the leading professional journals.*

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good mental habits to a love of learning, to sound moral character. But research has helped to soften the impact of this dogma.

3. Recognizing the fact of individual differences and the fallacy of formal discipline, research has led to diversification and adaptation of the curriculum. The curriculum is, of course, the very heart of education; and the importance of curriculum development in the last 30 or 40 years can scarcely be overemphasized.

4. Research has led to definite improvements in teaching methods and teaching aids. At least in some instructional areas, pupils are definitely learning faster; they are learning more pleasantly; and they apply their learning more widely and intelligently. (These benefits have extended, to some extent, even to the college level.)

5. Research has led to improvements in school organization. These improvements are manifold; but one outstanding gain is the development of larger administrative units and the growth of the consolidated rural school.

6. Research has led to improvements in school construction, giving us better built, better arranged, better lighted, more economically maintained, and safer buildings than we had in the past.

7 Research in school finance has led to improved financial support for local school districts—in part through county organization, but principally through State aid.

8. Finally, in this short list, must be mentioned improved methods in educational research itself.

We may take great pride in these achievements of educational research. Nevertheless, all of us know that research is far from adequate for many of the problems confronting education. The question we should consider is: *How can educational research be strengthened so as to increase its contribution to educational policy and practice?* One answer that is often given—and I think it is a good one—is to make educational research *more practical*. Just what does this mean?

To me, practicality in educational research embodies many virtues:

1. The problems studied in practical educational research are not primarily theoretical or academic; *they have their origin in actual educational operations*—in the classroom, in practical administration, in problems of financing the schools, in school construction, in public relations, etc. As an example, practical research would study the effect of a motion picture film upon the attitudes and later driving habits of students in a course on auto-driving—rather than (say) the role of the conditioned reflex in semi-automatic action, or the effect of mild fatigue on muscle tissue. *All* types of research have value; but the so-called “pure” research has had a more brilliant record in the physical sciences

and engineering than it has in the social sciences generally, or in education particularly.

2. Practical educational research looks toward application of its findings. This affects the technique of research itself; it means that the researcher must, so far as possible, obtain *participation* in the plan and program of research *by the persons who will first apply the research*.

3. Practical research gives emphasis to the question of *how to do it*. For example, having established a need for adapting a school to individual differences, the question is, *how to do it*—by homogeneous grouping? by a diversified curriculum? by broader extra-curricular or co-curricular opportunities? Each of these possible methods has a contribution to make, both individually and as part of a coordinated, balanced program; but each, on the other hand, can “come a cropper.” Practical research increases the proportion of successful applications by study of *how to do it*.

4. Practical research does not ignore any highly significant element of a problem. It aims to be as comprehensive and complete as possible; and it recognizes incompleteness as a prime source of invalidity. All kinds of factors require consideration in practical research: for example, the delayed or permanent effect, if any, of a proposed change; the cost; and the reaction of a host of persons whom the school administrator must take into account—namely, the pupils; the teachers; the school board; the parents; the public at large; publicists (reporters, editors, radio announcers, etc.); and a whole variety of more or less interested and powerful pressure groups. No research, of course, can be entirely complete. There are *degrees* of completeness; and surely, on a scale of completeness, the uncoordinated, fragmentary, dib-and-a-dab research conducted by university students must fall pretty low. Practical research requires a programmatic, coordinated, cooperative attack. We have too little of this at the present time.

5. Practical research *disseminates its findings*. The function of research is to illuminate. Research that stays buried in library archives does not accomplish this purpose.

6. One type of research attempts to discover something *new*, to extend the frontiers of our basic knowledge and understanding. There is another type of research—more humble, but often equally valuable—that may be called “operations research.” Here the aim is simply to evaluate the success of an operation, or of some particular aspect of the operation. In this type of research, the emphasis is upon measurement or fact-finding. Usually, of course, the facts are somewhat less than perfectly satisfying. This may lead to proposals for a change in operations: whereupon there again arises a need for research and fact-finding to determine the validity of the proposals.

Unfortunately, the operations type of research has not received its fair share of emphasis or respect. In the successful management of a school system, however, operations research is essential. I cannot help thinking that the disturbing "Pasadena story," for example, might have been avoided had Superintendent Goslin troubled to determine adequately the reaction of parents and the public to his program. Some time after his dismissal, the Pasadena Education Association engaged the John B. Knight Company to make a public survey on various pertinent issues. In response to the question, "*Is enough time spent on teaching the fundamental subjects, such as reading, writing, arithmetic, spelling?*," only 35 per cent of the Pasadena public answered Yes; 50 per cent answered "No," and 15 per cent answered "Don't know." The responses of persons having children was more favorable; but even here, less than half (46.5 per cent) answered "Yes." Evidently Superintendent Goslin did not enjoy very substantial public support on this particular point. A substantial lack of support was also indicated in response to other items. Regardless of how the public came to think or feel as it did, those were the facts: and Superintendent Goslin, without timely research or fact-finding to assess the situation, failed in his program. The failure, of course, may not be permanent; but at least temporarily, a failure must be recorded.

7. Finally, practical research must proceed with due regard to existing limitations. Thus, practical research must proceed with recognition of limitations that may be imposed by law; laws, in general, are not easily or quickly changed. Similarly, practical research must proceed with due regard to the existing school plant and facilities. Again, practical research must take into account the pertinent capacity or training of the current teaching staff, and the degree of understanding and enlightenment of the public. Finally, practical research must proceed with due regard to limitations of funds—and especially the funds available to prosecute the research. In general, it is foolhardy to undertake a \$25,000 research program on a \$5,000 budget.

So much for the methods of practical research. The goal of practical research is application. Practical research is application. Practical research can give us more education and better education; and it can make the educational dollar go farther. But there is another task for practical educational research: namely, to insure that we *maintain the gains we have made*. Practical research, in short, has both *offensive* and *defensive* goals. In some leading educational communities, education is now in a defensive position, suffering vicious attacks. These attacks require that the superintendent be able to point to *currently proved* facts that demonstrate the basic soundness and economy of his system. Here, again, operations research enters the picture. Too few superintendents

have given attention to operations research (of course, it takes some money), and too few superintendents, in consequence, have the facts needed to combat most effectively the attacks to which they are exposed.

Practical educational research recognizes that education takes place in a social matrix. Thus, in studying the effectiveness of vocational guidance, it is necessary to recognize that the child's home may support or oppose the philosophy underlying the guidance of the school. A study of teacher-morale must take into account numerous factors, including: teachers' salaries and expenses compared to those of other governmental and non-governmental employees; the trend in teachers' salaries vs. the trend in the Consumer's Price Index; supply and demand factors in teaching and in other professions or occupations; the relation between the teachers' social background and present social pressures or demands; etc. Research on local school construction would have to take account of such basic factors as: the birth rate; changes in the level of economic activity; inter- and intra-State migration; the index of construction costs; the possible role of organized real estate interests in connection with taxes; etc. Similarly, in educational finance, it would be essential to consider the distribution of taxable property and income, and the extent of non-educational claims on public funds (defense, war pensions, roads, social security, etc.). Both in its planning, in its interpretation of results, and in its recommendations for action, practical research recognizes the complex interlacing of educational and socio-economic elements. Unfortunately, the typical university thesis or dissertation often fails to do this, partly because the departmental organization of the university tends to discourage the interdisciplinary approach.

If I have stressed practical research, it is not merely because I have a personal interest in this type of research, but because practical educational research is so badly needed. At the same time, it is well to acknowledge that there are *degrees* of practicality. Ideally, we should of course hope that a practical research might also cast some light on theory, just as one would hope that a theoretical study might also suggest some practical application. I do not mean to decry theory or theoretical research. There is plenty of room for all types of research.

A while back I mentioned *funds* for research. The perpetual question about funds is, "How can we get some more?" This is so important a question that almost anyone's suggestions are worth consideration. My suggestions can be summarized under five points:

1. *Start with the customers.* Find out what the customers know, or think they know; find out, as specifically as may be useful, what they want; and if these wants are based on misinformation or misconceptions, set about aggressively to supply the pertinent facts. Talk the customers' language; use terms that he understands and approves; avoid

terms like "core curriculum" (why not merely "combined courses"?), or "current expenditures" (why not cite specifics that can more easily be visualized, such as teachers' salaries, textbooks and supplies, and maintenance and operation of the school plant, etc?).

Who are the "customers" or final authorities that I am talking about? They are numerous and varied. They include the pupils, the parents of pupils, other persons in the general (voting) public, the school board, the town council, the mayor, the service organizations, pressure groups, etc. Of course, these groups are heterogeneous; not all are uniformly important in all places or at all times. Obviously, discretion is required in the distribution of one's efforts. But until we establish better contact with our customers, we can hardly expect them to exhibit great interest in supplying the funds so badly needed for research.

2. Organize research more effectively in the interest both of validity and economy. There is, to be sure, room for the individualist's project in educational research; but there is more room for large scale, cooperative, coordinated projects that yield a greater volume of valid and applicable findings, per dollar invested.

3. Provide effective *demonstrations* of improved practice. This probably requires, first, the concentration of effort in a few centers where favorable conditions can be obtained and maintained; extension to other schools should be made *carefully* and without undue haste. This is *not* a recommendation for perpetual conservatism; it *is* an acknowledgment of the fact that, in practice, many "bugs" are likely to be encountered in connection with a proposed change; and these "bugs" require time for elimination.

4. Disseminate and "sell" the findings. Unless the findings of which *you* are aware are made plain to *others*, how much hope can we have for financial support from these others? Educators should devote more time to educating their various publics or customers—truthfully, but energetically.

5. Finally, let us establish a closer liaison between research on the one hand and application on the other. Granted that application is best left in the hands of the "practicing school man" rather than the research team. Nevertheless, new research findings require "servicing" in their application, just as much as new and complicated machinery requires servicing by the manufacturer. A closer liaison between those versed in research and those versed in application should improve both research and application to the great benefit of both.

What I have been saying, in effect, is that educational research, to obtain more funds, must *earn* it by greater efficiency and more effective persuasion. If research is to become, to a greater extent than it

now is, the bulwark of education, it needs to make gains—large gains—in *funds*, in *organization*, in *practicality* of content, in *validity*, in *applicability*, in the skill with which findings and conclusions are *disseminated* and “*sold*,” in *servicing* the applications, and above all in *recognition of what the customers want and believe*.

*All these gains are possible.* Some lie wholly within ourselves to accomplish: e.g., we can work on what will satisfy the customers and the ultimate authorities, rather than on what will gratify our own intellectual curiosity, or our students' degree requirements; we can improve the validity of our work; we can take more time to “follow through” with consultation and advice on applications; we can—more than we have—coordinate our efforts and cooperate more fully. Other gains lie beyond our direct powers; but if we make the gains that we *can* make, we may expect others to recognize these gains and respond to our needs and solicitations with funds that are more adequate.

Ultimately, of course, the burgeoning of research and education depends not only on our own merits, but also on the Nation's productivity, and the proportion of that productivity which goes into the weapons of war versus the arts of peace. Assuming some success for our diplomacy, however, and an eventual rapprochement with Russia, whether or not the future is bright for research and education depends largely on the wisdom and the energy of people like you and me. That we will gain ground, I have no doubt; let us remember, however, that there is a good deal of ground to be gained!

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## C.E.R.A. CONFERENCE TO BE HELD AT SAN FRANCISCO STATE COLLEGE

The 1952 annual conference of the California Educational Research Association will be held at San Francisco State College on March 28 and 29. The Conference will begin Friday evening, March 28, and continue through Saturday afternoon, March 29.

Featured at the 1952 CERA Conference will be a panel, Friday evening, on “Are Our Schools Getting Better?”; a variety of research papers on Saturday morning; the Conference Luncheon on Saturday noon; and two symposia on Saturday afternoon. The symposia will discuss the following two topics: (1) Critical Analysis of Cultural Factors in Intelligence; and (2) Critical Analysis of Problems in School Finance.

Chairman of the Program Committee is Merle H. Elliott, Director of Research, Oakland City Schools. Inquiries regarding the conference should be directed to Dr. Elliott.



# The Measurement and Analysis of Teachers' Attitudes

EDWIN WANDT

American Council on Education

ONE of the major concerns of education is the selection of the best possible teachers. Much research has been conducted in the area of teacher selection. Most of this research has involved the measurement of teachers' intellectual abilities. Although it is generally conceded that the teacher's "personality" is of great importance, relatively little work has been done in this area.

The study here reported was directed at a better understanding of one aspect of teacher personality—teachers' attitudes. The attitudes selected for study were those that the teacher holds toward various groups of persons contacted in the schools. Although the ultimate practical use for measure of teachers' attitudes (opinions) is determined by the relationships between those attitudes and various overt behaviors in the school situation, it was not feasible to attempt a study of these relationships immediately. First, it was necessary to devise instruments which would measure teachers' attitudes and to learn how these attitudes were inter-related. Secondly, it was necessary to study the relationships between teachers' attitudes and certain major attributes with which they might be associated. Finally, it seemed desirable to investigate the question of whether disguised items (or scales) could be used to tap these attitudes, realizing that if it were desired to obtain measures of teachers' attitudes in a situation where there was pressure on the teacher to make a favorable impression, the usual type of attitude scale could easily be faked.

## Purposes

Specific purposes of the investigation were:

1. Construction of scales to measure teachers' attitudes toward the various groups contacted in the schools.
2. Study of the inter-relationships of these attitudes by means of factor analysis.

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3. Investigation of the relationships between teachers' attitudes and certain other selected attributes (experience and grade level taught).
4. Investigation of the possibility of using disguised-structured items to measure teachers' attitudes.

## Procedures

Attitude scales were constructed to measure teachers' attitudes toward: administrators, supervisors, pupils, parents, teachers, non-teaching employees, democratic classroom procedures, and democratic administrative procedures. Two scales were constructed in each of the preceding areas, one composed of statements agreement with which indicated a favorable attitude (positive statements), the other composed of statements agreement with which indicated an unfavorable attitude (negative statements). These sixteen scales were assembled into an instrument entitled, *Inventory of Teacher Opinion*.

A small number of disguised-structured items were devised to measure attitudes in the above named areas and assembled under the title *Survey of Professional Information*. These disguised-structured items consisted of multiple-choice items which appeared to have factual answers, but which in reality had none. In choosing one of the responses, the teachers revealed their attitudes.

The *Inventory of Teacher Opinion* and the *Survey of Professional Information* were mailed to 801 female California public school teachers in grades 1 to 12. Replies were received from 472 of these teachers. From these replies a sample of 240 teachers (stratified by experience and by grade level taught) was selected to provide the basic data for the study.

Three factor analyses of the teacher opinion data were completed: I. An analysis of the eight "positive statement" scales; II. An analysis of the eight "negative statement" scales; and III. An analysis of all sixteen scales (including a second-order analysis). Thurstone's centroid method of factor analysis was used in all analysis with rotation to oblique simple structure.

The relationship between teachers' attitudes and (1) grade-level taught and (2) years of teaching experience were studied. Comparisons were made between four grade level groups of teachers (grades 1-3, grades 4-6, grades 7-9, and grades 10-12) and between four experience level groups of teachers (1-5 years, 6-10 years, 11-20 years, more than 20 years). These comparisons were made on all of the sixteen attitude scales.

The relationships between the disguised-structured items in the *Survey of Professional Information* and the sixteen attitude scales were studied by use of item analysis procedures using the sixteen scales, in turn, as the criteria.

## Results

The factor analyses of the eight positive scales and of the eight negative scales each resulted in three oblique (correlated) factors. These factors were quite similar in both analyses. The three factors were interpreted as (1) *attitude toward pupils*, (2) *attitude toward administrators*, and (3) *attitude toward adult non-administrative groups contacted in the schools*. An alternate naming of these factors might be (1) *attitude toward subordinates*, (2) *attitude toward superiors*, and (3) *attitude toward peers*. The analysis of the sixteen scales resulted in eight doublet factors, one in each of the eight areas investigated. A second-order analysis of these eight primary factors resulted in three oblique factors which corresponded to those discovered in the "positive" and "negative" analyses. It has been mentioned that the three factors were oblique (correlated). It should be pointed out that the factor "attitude toward pupils" was the most unique of these three factors; that is, its correlations with the other factors were lower than the correlation between the other two factors.

The investigations of the relationships between teachers' attitudes and grade-level taught showed that there were no significant differences on any of the attitude scales between the two elementary teacher groups (grades 1-3, and grades 4-6) or between the two secondary teacher groups (grades 7-9, and grades 10-12). A number of significant differences were found between elementary and secondary teacher groups on scales measuring: attitude toward pupils, attitude toward parents, and attitude toward democratic classroom procedures; scattered significant differences were found in three additional areas. In all cases where a significant difference was found between elementary and secondary teachers, the elementary teachers possessed the more favorable attitudes. Secondary school teachers tended to be more homogeneous in their attitudes than elementary school teachers. Scattered significant differences between groups of teachers classified by years of experience also were discovered; however, there were no patterns of differences existing between the various experience groups as there were between the elementary and secondary teachers.

The results of the item analyses of the disguised-structured items using the direct attitude scales as criteria indicated that this type of item could successfully be used to measure teachers' attitudes.

## Conclusions

The following conclusions are restricted to the population of female California classroom teachers in grades 1 to 12.

1. Teachers' attitudes toward the various groups contacted in the schools may be described in terms of three oblique factors: (1) *attitude toward pupils*; (2) *attitude toward administrators*; and (3) *attitude toward adult non-administrative groups contacted in the schools*. The correlations between these factors are positive and fairly high, particularly between factors (2) and (3). It is possible that two factors are sufficient to describe teachers' attitudes toward the various groups contacted in the schools. A combination of factors (2) and (3) might be named *attitude toward adult groups in the schools*.

2. Teachers' attitudes, particularly on factor (1), are related to grade level taught and are relatively unrelated to experience. Elementary teachers have more favorable attitudes than secondary teachers in all cases where a difference exists between these two groups. Elementary teachers are more heterogenous in their attitudes than secondary teachers.

3. It appears that disguised-structured items can be used to measure the same attitudes tapped by the direct attitude scales.

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## PSYCHOMETRIC FELLOWSHIPS OFFERED

Educational Testing Service has announced for 1952-53 its fifth series of research fellowships in Psychometrics leading to the Ph.D. degree at Princeton University. Open to men who are acceptable to the Graduate School of the University, the two fellowships each carry a stipend of \$2,375 a year and are normally renewable. Fellows will be engaged in part-time research in psychological measurements at Educational Testing Service and will, in addition, carry a normal program of studies in the Graduate School. Competence in mathematics and psychology is a prerequisite for obtaining these fellowships. The closing date for completing applications is January 18, 1952. Information and application blanks may be obtained from: Director of Psychometric Fellowship Program, Educational Testing Service, 20 Nassau Street, Princeton, New Jersey.

# An Informal Approach To In-Service Training

LELAND B. NEWCOMER  
Azusa (California) City Schools

THE in-service training of teachers is being considered increasingly as one of the most fundamental needs and responsibilities of the teaching profession. The responsibility for satisfying this need lies with all members of the profession, but represents a special challenge to the school principal.

## Purpose of Study

This study endeavored to describe and present a limited evaluation of an in-service educational experiment involving ten teachers of the San Dimas Elementary School and their principal. An attempt was made to obtain data that would shed light on what happens when a group of teachers meet with their principal bi-weekly in private homes to study and discuss the behavior of children and other problems of classroom teaching. It is an effort to explore what takes place in a specific group situation, to determine results, and to understand why and how any modification in attitudes and teaching practices take place under such circumstances. In addition, data were gathered about group work that would aid in answering the following questions:

1. Is mutual collaboration of this sort beneficial toward creating a better understanding of children?
2. What is the reaction of teachers to this type of in-service project?
3. Is this a practical and desirable technique of in-service training for a principal to use with teachers?
4. What are the advantages and limitations of this type of group work?

In general, the aim was to determine wherein, if any, lies the value in this specific type of in-service training procedure in terms of the foregoing specifications.

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*Leland B. Newcomer is coordinator of instruction in the Azusa, California, City Schools. He has also taught in the elementary schools at Artesia, and San Dimas, California. He served as principal in the latter community. Mr. Newcomer attended the Claremont Graduate School, and in 1951 was granted his Master's degree. His article is based on his Master's thesis.*

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## Procedure

The over-all strategy of the meeting was to create a comfortable, permissive atmosphere of free group discussion and interaction. The content of the meetings was planned only so far as was necessary to motivate interest. The behavior of children was the natural departure point, in that all members of the group seemed interested in this subject and quite willing to talk about it. No topics were discouraged, however, and every effort was made to create the feeling that this was a place where any problems could be brought up and would be considered relevant and legitimate. The teachers were told that these were their meetings and the content of the sessions would be of their own choosing.

The procedure of the group meetings was determined by the leader's attempt to provide an atmosphere in which a group of teachers could get together and, through mutual collaboration and the dynamics of the group process, solve or at least lighten the burden of the many problems that tend to make the load of successful teaching unduly heavy.

The author attempted to measure results of this group process by the use of various techniques.

Written records of each meeting were made. These contained meaningful quotations by individual members, descriptions of environment, atmosphere, topics discussed, and a general description of what took place in each meeting. It was an attempt to record a "working picture" of the group which, when studied as a whole, would aid in revealing significant data concerning the functioning of the group and the development of individuals within the group.

## Group Functioning

Briefly, the functioning of this group as revealed by the record, may be defined in three stages.

Stage 1. Approximately meetings 1-4, characterized by:

- a. Insecurity and apprehension caused by a discussion situation in which one could freely express both positive and negative reactions toward children.
- b. A limited, minimum amount of free discussion.
- c. Defensiveness about discussing problems or classroom incidents involving themselves; preference for discussion in impersonal generalities.
- d. Rather direct and controlling leadership required; leader had to introduce and motivate topics for discussion.

Stage 2. Approximately meetings 4-10, characterized by:

- a. More interaction as a result of all participating in developing case studies.
- b. Emergence of classroom incidents in the discussion with much less defensiveness in presenting and analyzing them.
- c. Less formal reporting and more free flowing participation in open discussion of member initiated problems.
- d. Increased enthusiasm and more relaxed atmosphere.

Stage 3. Approximately meetings 11-15, characterized by:

- a. Content of meetings group initiated and centered around specific problems of the group members.
- b. The leader functioning more as a member of the group, less as the "director" of the group; this role accepted by the group members.
- c. Realization of common problems and objectives brought about improved "rapport" between members.
- d. Members becoming more proficient in utilizing the group in attempting to solve their problems.
- e. Members increasingly able to discuss problems objectively and realistically without letting personal involvement cause defensiveness.
- f. Desire of group members to extend their group endeavor into future meetings of similar nature.

## Results

In brief, the fifteen meetings resulted in the ten teachers and their principal becoming more of a working group. The stage was set for a cooperative approach to in-service education. The result of this group study seems to indicate that it is necessary for a group to go through the same or similar stages as herein described before they can begin to function successfully as a group. In the latter stage, the group process becomes the means by which individuals and their resources are mobilized by themselves into a working unit with a tendency to solve problems cooperatively.

"Before" and "after" data and records of comments and incidents involving the teachers in their everyday work were used as techniques for assessing the modification of teachers' attitudes and practices regarding the behavior of children.

In the fall of the year the group members were asked for their written reactions to a number of hypothetical classroom situations. Again in the spring they were asked to do the same thing. By a comparison of these, before and after, it was possible to determine modification in attitudes and understanding as a result of participating in this group activity.

Another "before" and "after" technique involved each teacher stating what she felt to be her greatest problems in teaching her class of children. These statements revealed not only the self-felt problems of the group members, but also clues as to attitudes and educational maturity and sophistication. A comparison of these data, before and after, revealed enough significant modification to warrant devising a set of descriptive categories, and several competent judges rated each statement, before and after, as they related to these categories. The judges' ratings were consistent to a sufficient degree to lend validity to this aspect of the study.

The foregoing data revealed evidence of change in educational maturity among the group members as shown in attitudes and understanding

regarding the behavior of children. In some members there was a noticeable change as measured by these techniques; in others, change was not so great, and in some very little if any change was revealed. Generally speaking, the results of this part of the investigation have shown that this type of in-service work does hold promise as a means of modifying teachers' attitudes and practices regarding the behavior of children.

## Evaluation by Participants

Of major importance were the techniques used to determine what the group members thought of these group meetings. These data were obtained through the anonymous questionnaire technique, and by a vice-principal from another school system who interviewed the group members about the meetings to aid him in setting up a similar activity in his school. Because this aspect of the investigation involved descriptions by the teachers of their in-service activity to a person disassociated with their school district, it reveals useful information about reactions of the group members.

The teachers' written evaluations of the group meetings tend to support the revelations of the teacher interviews. In summary the two techniques seem to indicate the following:

1. The teachers enjoyed the experience.
2. They felt it was worthwhile in helping them to do a better job with children.
3. They would like to extend this type of group activity into the future.

## Implications

As the experiment unfolded, the free group discussions on problems of the teachers' choosing, in a comfortable, permissive atmosphere, seemed to indicate several outcomes of this type of group work with teachers.

1. In varying degrees, individual members of the group developed increased awareness of the importance of understanding children and increased insight about how to provide for their individual differences.
2. The physical-psychological conditions of the group situation resulted in an experience which the teachers enjoyed.
3. This technique of working with teachers provides numerous opportunities for a principal to improve his relationship with teachers and to provide educational leadership.
4. This group experience created improved personal and social relationships among the group members.

Other possible implications of this type of group work with teachers were evidenced in this study. More insight about them, however, requires further research beyond the limits of this investigation.



# Tools and Procedures in School Law Research

MADALINE KINTER REMMLEIN

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**R**ESearch in school law is a specialized branch of research more closely allied to the legal profession than to education. Methods that are satisfactory in general educational research do not necessarily fit investigations into school law topics; for example, questionnaire and interview methods are not suitable. Yet persons engaged in educational research frequently find it necessary and desirable to do legal research regardless of their lack of legal training. There is no ethical obstacle to the use of legal research tools and procedures by educators, but they should become familiar with these specialized tools and procedures in order to achieve a satisfactory result.

School law topics have become popular subjects for graduate theses; educational institutions and organizations have prepared school law reports in large numbers. Not all this research is reliable. Secondary sources that are sometimes out of date or themselves unreliable have been used; statutes that have been repealed or declared unconstitutional have been quoted; court decisions that have been overruled have been cited. If the proper tools and procedure in legal research had been used, none of these weaknesses would have been found in these reports. If educators concern themselves with school law research they should learn how to use legal tools and legal research technics.

School law sources are constitutions, state statutes, regulations with the force of law at the state and local levels, court decisions, and opinions of attorneys general. The most common sources are statutes and court decisions. Therefore the tools herein discussed are limited to those used

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*Dr. Madaline Kinter Remmlein is well qualified to write on the subject of school law research. In addition to a Ph.D. degree obtained at the University of Paris, she was awarded her J.D. degree in 1944 at the George Washington University Law School. Dr. Remmlein has been in her present position since 1936. Prior to that time she had served in the Pennsylvania State Department of Education, Columbia University Bureau of Collegiate Educational Research, and in the Research Office of W. W. Charters at the University of Chicago. She is author of a textbook, "School Law," published by McGraw-Hill. Her article in this issue of the Journal should interest those who wish to know more about a specialized type of educational research.*

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in connection with statutes and court decisions. Procedure in legal research consists of eight steps. The applicable tools will be described in connection with each of these steps.

## Defining the Problem

The first step is defining the problem. Aid may be found in one or more of the outlines of school law contained in the tools of legal research, to be described later. A school law topic defined solely from the point of view of the educator may cut across several legal principles and make the research more difficult than if the problem is defined primarily in terms of the basic legal principle involved, even though couched in educational terms. A number of these outlines are available. One is contained in *American Jurisprudence*, and another more detailed outline is in *Corpus Juris*. Both of these legal tools will be described in the seventh step; the outlines are of value in this first step of defining the problem.

## Finding and Summarizing Statutory Provisions

The second step is finding the pertinent state statutes and summarizing their provisions, assuming that there is a statutory basis. It is particularly important in this step to note in each instance the complete citation to the statutes summarized, not only for purposes of verification later, but also in order to use certain tools of legal research which are applicable only by use of statutory section numbers. Tools of legal research depend primarily upon identification of statutes and of court decisions by numbering systems rather than by subjectmatter indexes. Citations of the section numbers of the statutes used in the study are extremely important.

Almost every state department of education publishes from time to time a compilation of state laws relating to education. Their chief advantage is availability to educators. There are usually many disadvantages to their use. Some of these publications appear infrequently and are difficult to use without further search for later enactments. There is another and a more serious objection to using some state department publications. Compilations in some states are arranged in a sequence and numbered by the state department without reference to the official numbering system of the general statutes in the state. This practice was more prevalent a few years ago than at present. It is an undesirable procedure because the state department of education numbering system cannot be used with certain tools of legal research. These tools are prepared for use with the official state code of general laws for each state. Therefore, in legal research it is highly recommended that the school laws be sought in the code of general laws rather than in state department of education publications, unless the state department has published the school law with the identifying section numbers used in the general code.

It is also more efficient to use the general code of the state because the compilations of general statutes in most states are annotated. The term "annotation" in this instance means that under each section of the statute is given the history of it and the leading court cases in which it has been interpreted. This information is helpful in tracing a point of law.

## Tracing the Pertinent Statutes

When the pertinent statutes are summarized and their citations noted, the third step may be taken. This third step involves the use of *Shepard's Citations* to ascertain whether or not any of the statutes have been repealed, amended, or declared unconstitutional. *Shepard's Citations* also provides information as to the cases where each pertinent statute has been interpreted by the courts. The worksheets of the student of legal research should include a record of the complete citations of all these cases listed under the section number of each statute included in a study. Summarization of statutes without reference to their judicial interpretation is incomplete.

There is a *Shepard's Citations* periodical for each state, except two. This publication includes the subsequent history of each enactment and the court decisions in which it has been mentioned by any court. Since these citators list the section numbers of the statutes without subjectmatter identification, it is important to record the section numbers of every statute as mentioned in the previous step. Abbreviations preceding these references in *Shepard's Citations* indicate what has happened in each instance. For example, "A" means amended, "Ad" means added. Bold face figures preceded by a section mark (§) give the statutory reference. There is no way of determining the subjectmatter in *Shepard's Citations to Statutes* except by these section numbers referring to the statutes. There is nothing in the Citations except columns of numbers identifying the sections of the statutes and references thereunder to changes in the statutes identified by symbols, dates, and numbers. References to court decisions in which the sections of law have been cited by the courts are also indicated by a numbering system.

## Locating Related Court Decisions

At this point the worksheets will show summaries of statutes and their citations, together with any notes taken from *Shepard's Citations* concerning each of these statutes. If one is making a nationwide report on a topic he will want to know what the courts have decided in other states under similar or different statutory language. For this information, as the fourth step, the research student may refer to the *American Digest System*.

The *American Digest System* is a systematic device for classifying court decisions according to the principles of law and the facts involved in each. There are seven units of the *American Digest System*; the earliest one begins with cases decided in 1658. The Fifth Decennial Digest covers the years 1936-1946. The General Digest, Second Series, consists of annual publications from 1946 forward.

Cases in each of the seven units in the *American Digest System* are arranged in the same order according to subjectmatter. Each general topic has a number; for example, "Schools and School Districts" is topic number 345 in its alphabetical setting. Within each general topic the subjectmatter is logically outlined and each item in the outline is given a number, called the key number. [This is an outline that could be used in the first step of the research project.] There are almost 200 key numbers under the general topic of "Schools and School Districts." All court decisions for the entire country under any one of these subtopics is identified by the same key number.

A "Table of Cases" is included in the *American Digest System*, giving for each case the exact title, alphabetically listed, and all the places where it may be found, as well as the topic and the key number of every point of law decided in each case and whether it has been affirmed, reversed, or modified. There is also a subjectmatter index to the *American Digest System*. It is called the "Descriptive Word Index" and uses nonlegal terms as well as legal terminology with many cross references. Key numbers identify the references and it is possible to discover by this index under what key number a point has been digested, if this has not already been discovered from the outline of the topic at the beginning of its treatment.

The digests are short paragraphs on each point of law in the case. The digests identify the subjectmatter according to the key number; state the court in which the decision was rendered; digest the principles of law involved; give the reference to the statute involved, if any; and conclude with the citation to the court case.

From the *American Digest System* the legal research student compiles a bibliography of cases for further study. The *American Digest System* is not the only source of this information, but it is probably the most productive and is a very simple tool. It includes cases based upon statutory law and those having no such basis. Its use is highly recommended. The digests aid in determining whether a particular case is likely to be pertinent and in classifying the cases for the particular project. But this is not the final step. In order to make a correct application of the decision it is necessary to read the entire opinion of the court in the "reports."

## Tracing the Court Decisions

However, before the student begins reading the opinions in the cases collected in the bibliography, he will want to take another step; namely, to examine *Shepard's Citations to Cases* which shows if any of the cases have been disapproved, modified, or reversed by later decisions. Each time any case is cited in another decision, *Shepard's Citations* makes note of the fact with appropriate abbreviations to indicate what happened.

*Shepard's Citations to Cases*, like the *Citations to Statutes*, is a compilation of numbers in columns. Cases are identified by the page and volume number of the report in which the case is published. Under these numbers of pages under each volume number are citations to other cases with abbreviations that tell what the court in the subsequent case said about the earlier case. For example, "e" means that the first case was explained in the second listed case; "D" means that the second case was dismissed; "d" means that the second case was "distinguished" from the first case. Thus, these abbreviations and many others that are used are of infinite value in the study of the problem.

## Analyzing Court Decisions

The sixth step in the procedure is to read the opinions of the courts in the *National Reporter System* for all the cases in the bibliography. The *National Reporter System* includes all cases and gives the actual opinion of the court in each. By using the *National Reporter System* it is possible to read all the cases in all the states on a particular point. The System is published in nine units, each covering a geographical section of the United States. It also includes the federal courts in separate units. Several volumes in each unit are issued each year.

Prior to the publication of each volume, cases are published in weekly bulletins with paper bindings, called "Advance Sheets." These weekly bulletins enable one to read a case without waiting for the publication in its final form. With the use of the Advance Sheets a problem may be followed to within a month of any current date. It takes about a month for a decision to be released by the court, processed, and reported in these weekly bulletins.

When reading these court decisions notes should be taken of the facts which brought the case to the court, the legal principles involved, and how the court decided each issue in question. The complete citation to the decision should be recorded. A complete citation includes the name of the case, the unit of the *National Reporter System* in which it is reported, and the volume and page number of the *National Reporter System* unit in which the case is reported. The state and date year should be added in

parentheses. For example, *Lansing v. Board of Education of San Francisco*, 45 P. (2d) 1021 (California, 1935) is a complete citation. "Lansing v. Board of Education of San Francisco" is the name of the case which is found on page 1021 in volume 45 of the second series of the *Pacific Reporter*. It was decided in 1935 by the California court.

## Applying the Criterion of Consistency with Case Law Principles

Court decisions may be found in other publications. One other source is the so-called *Annotated Reports*. The *Annotated Reports* include leading cases from all states, selected by the editors as outstanding for one reason or another. There are seven series; the earliest one includes early English and American decisions. Except for historical studies only the latest series need be used in school law research; that is, the *American Law Reports* which began in 1919.

The *American Law Reports* are most useful, not for the cases they include, but for the notes following the cases. These notes, or "annotations," review the substance of what has been decided in other cases on the same point. Some of these notes are lengthy and all except the shortest ones are preceded by an outline. Annotations such as these are extremely helpful in obtaining a general understanding of a point or in gathering together loose ends of a topic after having read many, and possibly conflicting, cases. It is therefore an essential step in school law research to examine the *American Law Reports* notes on the subject of the project.

Two other legal tools are important for complete investigation in a school law research project. One is *Corpus Juris*; the other is *American Jurisprudence*. *Corpus Juris* is a many volumed series of case law principles reported in encyclopedic form. Textual matter provides a running account and copious footnotes give citations to cases substantiating the text. The material is classified according to subjectmatter and the topic "Schools and School Districts" appears in Volume 56. Annual supplements bring all topics up to date.

At the beginning of its treatment each topic is outlined in detail and each subtopic in the outline is given a number which is used in the discussion to identify the subjectmatter and for identification in the annual supplements. There are 111 subtopics in "Schools and School Districts." [The outline was recommended for use in the first step of the research.]

One disadvantage in using *Corpus Juris* is that the annual supplements are not cumulative and it is therefore necessary to examine many volumes in order to bring up to date Volume 56 which includes the topic "Schools and School Districts." It was published in 1932. A second series called *Corpus Juris Secundum* is under way, but it is appearing in the alphabetical order of the topics and "Schools" has not yet been reached.

*American Jurisprudence* is the second series of an earlier encyclopedia called *Ruling Case Law*. The style is similar to *Corpus Juris*, but *American Jurisprudence* contains only the leading cases whereas *Corpus Juris* is exhaustive. Both use the same style of presentation — textual material with copious footnotes giving citations to cases illustrating the statements of principles in the text.

## Writing the Report

When the research student has completed the investigation by these seven steps, he is then ready to write a report from his worksheets. After the report is in first draft, he should return to the law library to check all references for accuracy. With all of the thousands of court decisions it would be exceedingly difficult for a reader of the final research report to identify a case which contains even a small error.

These tools of school law research will seem unfamiliar to many educators. No brief explanation can present adequately the many complexities involved. Only by actually following the procedure and working with the tools can the student develop a feeling of security. The present discussion will indicate the necessity of using proper tools and procedures in school law research. As in other specialized research fields, legal research has its own technics and its corresponding obligations to the standards of prolonged and meticulous investigation.

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## THE EDITORS SAY: Research and the Critics

*Continued from Page 2*

that the subversive effects of their propaganda cannot be combatted successfully through bigoted censorship. Propaganda is all around us constantly — in our classrooms, in our living rooms, and on every street corner. Adequate safeguards can be achieved *only* by teaching young people the essential skills of critical, objective thinking and learning to detect propaganda when they see it."

Our school system needs the support of an aroused, vigorous, and vigilant public interest in the soundness and effectiveness of its educational program. But there is also the parallel need of an alert, informed profession — ready and willing to defend the tenets of modern education. Research can play a large role in this endeavor.

# Students' Reaction To General Psychology Course

COLLINS W. BURNETT  
Ohio State University

**T**O what extent is psychology taught in high school? What kind of psychology course in the opinion of college sophomores would be the most valuable to high school students? What reactions do college sophomores have to a required introductory course in general psychology? The writer became interested in these and related questions as a result of his teaching in the Department of Psychology, Fresno (California) State College. The writer taught a number of sections of the introductory general psychology course which was required of all students during the sophomore year. Students commented at various times that they wished they had been able to take a psychology course in high school. They stated that such a course would have made the college course easier to understand and also more applicable to them as individuals.

There was also the need for determining to what extent psychology was taught in various high schools. Then there was the problem of whether or not the present sophomore course should be revised or a new course planned for the freshman year.

## The Investigation

The writer decided to investigate some of the problems raised by these students. A questionnaire was devised and administered to 600 sophomores in 15 different sections of general psychology during 1947-1949. By means of a random sampling technique 300 questionnaires were selected for this study. This number included students from the writer's sections of general psychology as well as students from sections taught by three other instructors.

The questionnaire was administered during the regular class period as a part of the class work. Students were asked not to sign their names in order that they could be objective in responding to the items. Most of the group of 300 answered all items, but there was some variation in number responding from item to item.

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*Collins W. Burnett is coordinator of student personnel in the College of Education, Ohio State University. He had formerly taught at Fresno, California, State College. His Ph.D. degree was earned in 1948 at Ohio State University. A previous article of Dr. Burnett's appeared in the January 1951 issue of this publication.*

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The questionnaire which is presented for reference has nine items. The questionnaire will be discussed under the following headings:

- I. Extent of Psychology Courses in High School (Items 1-3)
- II. Most Valuable Kind of Psychology Course for High School and College (Items 4-6)
- III. Student Reactions to General Psychology (Items 7-9)

## Findings

### A. Extent of Psychology Courses in High School

Approximately 80 per cent of the 300 questionnaires studied showed that the students came from high schools in California. The size of the graduating class ranged from 17 to 900. One of the reasons for including this item was to identify those high schools teaching psychology. The supposition was that perhaps the larger schools might be doing more in psychology than smaller schools. Data to be presented for Items 2 and 3 show that so few high schools presented work in psychology that there was not enough information to decide this point.

Only 22, or 7 percent, attended high schools where such a course was offered. Of this group, only 7, or 2 percent, actually took a psychology course. The course had various names such as elementary psychology, general psychology, criminal psychology. This would seem to indicate that little has been done to include psychology in the high school curriculum. In fact, there seemed to be little interest in psychology even in those high schools in which the course was presented. This may indicate that because it is a new addition to the curriculum in comparison with traditional subjects such as English, history, and mathematics that students have not had a chance to become interested in it.

Since a few students had commented at different times that they had taken a course not called psychology, but which was essentially psychology, this item was included in the questionnaire. There were 25 students or 8 percent, who answered this affirmatively. Of this group, 20, or 6 percent, actually took such a course. Such titles as American problems, philosophy, social studies, and senior problems were used for the course.

### B. Most Valuable Kind of Psychology Course for High School and College

In order to get some ideas about the kind of psychology course that might be worthwhile to students in high school, the sophomores were



asked to rank order the courses in Item 4. The seven courses were ranked in the following order:

- |                       |                           |
|-----------------------|---------------------------|
| 1. How to study       | 5. Personality            |
| 2. Occupations        | 6. Social psychology      |
| 3. Mental hygiene     | 7. Educational psychology |
| 4. General psychology |                           |

It is not surprising that a "how to study" course was listed first. Many of the sophomores probably were finding that poor study techniques was one of their main problems in doing successful college work. The items "social psychology" and "educational psychology" may not have been understood and were, therefore, listed at the bottom. No one suggested an additional course even though a space was indicated for doing so.

When students were asked how many would have taken one of the courses listed above, 252, or 84 percent, answered in the affirmative. The "how to study" course was named most frequently (86) as the course which would have been taken in high school had it been available. Almost as many students (84) selected general psychology. In general, the responses to this question agree closely with the way in which the courses were rank ordered in Item 4.

Table I shows how students responded to Item 6 which asked which course listed in Item 4 would have helped most in college work at Fresno State. The "how to study" course again received the most votes.

TABLE I

## VOTES FOR THE MOST HELPFUL COURSE FOR COLLEGE WORK

<i>Course</i>	<i>No.</i>
How to Study .....	195
General Psychology .....	53
Personality .....	19
Occupations .....	12
Educational Psychology .....	5
Social Psychology .....	5
Mental Hygiene .....	4
Total.....	293

Students seemed to think this course (How to Study) was not only most valuable at the high school level but also would have helped most in college work.

The fact that the "how to study" course was placed first in response to three different questions suggests that such a course may be needed

both in high school and college. Such a course was developed at Fresno State College for a small number of students each year.<sup>1</sup>

### C. Student Reactions to General Psychology

So far the questionnaire results have shown that very few of the sophomores had taken psychology in high school. A "how to study" course was preferred to other psychology courses both in high school and college. Since the present general psychology course was a reality, the writer wanted to determine student reactions to it. This was done with the thought that it might be easier to modify the present course than to add a new one at freshman level or to encourage more psychology to be taught in high school.<sup>2</sup>

Table II lists the suggestions for making the general psychology course more interesting. Student responses were paraphrased and grouped into thirteen different categories.

**TABLE II**  
**HOW TO MAKE GENERAL PSYCHOLOGY MORE INTERESTING**

<i>Suggestions</i>	<i>No.</i>
1. More experiments and demonstrations .....	55
2. More movies in sequence .....	43
3. Relate to everyday life .....	21
4. Less technical material .....	18
5. More class and panel discussions .....	16
6. Cover less material .....	15
7. Use better text .....	14
8. More field trips .....	11
9. Use of psychological laboratory .....	10
10. More outside reading .....	8
11. Better discipline in class .....	7
12. More illustrative and visual material .....	6
13. Others .....	4

In examining these suggestions to make the course more interesting, it is apparent that the students are emphasizing good teaching techniques.

<sup>1</sup> Burnett, Collins W. "Study Skills and Counselor Training: A Two-Way Teaching Program," *California Journal of Educational Research*, II:18-21, January, 1951.

<sup>2</sup> Since the data were collected for this article, a new course designated as "introductory psychology" has been added for the freshman year.

Points 1, 2, 3, 5, 9, and 12 are definitely in this area. Points 4 and 7 refer to the text which was used in all sections.<sup>3</sup> Some students commented that this text was too advanced for sophomores.

Students also had definite ideas on how to make the course more useful. Fewer students responded to this item, however, than the previous one. The comments which were paraphrased and grouped into categories are presented in Table III.

**TABLE III**  
**HOW TO MAKE GENERAL PSYCHOLOGY MORE USEFUL**

<i>Suggestions</i>	<i>No.</i>
1. More application of material to student .....	20
2. More aptitude and personality testing .....	16
3. Emphasize how to study techniques .....	9
4. More emphasis on social psychology .....	9
5. More thorough coverage on some material .....	9
6. More technical coverage on some points .....	7
7. Use of a psychological laboratory .....	5
8. Less technical material .....	5
9. Field trips .....	4
10. More help on personal problems .....	3
11. Others .....	3

Most of these suggestions seem to be in line with good teaching procedures. Instructors of required courses taught as early as the sophomore year need to be reminded that not all of their students will do graduate work in psychology. This is the idea expressed in Point 1. The "how to study" course receives more attention in this table. Points 6 and 8 seem to be in conflict. It may be that some students reacted to the course differently.

Student reactions to the total course in general psychology seem to be very clear-cut and are presented as follows:

	<i>No.</i>	<i>%</i>
Liked it .....	199	67
Undecided .....	62	21
Disliked it .....	36	12
Total .....	297	100

It is interesting to note that only three students in the selected group of 300 failed to answer this item. Although students had indicated certain

<sup>3</sup> Munn, Norman L. *Psychology*. New York: Houghton-Mifflin, 1946.

weaknesses in the course, 67 percent liked the course. Some of the common reasons listed for disliking the course were as follows: "covers too much material," "do not like the subject matter," "too vague," "too much physiology," "merely a definition of terms," "should include character study," etc.

The last point mentioned in the paragraph above was a misunderstanding students frequently had at the beginning of the course. They thought that psychology would teach them how to read peoples' minds, explore the supernatural, and make a personality diagnosis on the basis of physique or texture of hair. Some students were disappointed to find that psychology was a science.

### Summary

This study revealed that psychology was not commonly included in high school curricula in California. Most of the college sophomores stated they would have taken such a course in high school had it been available. A "how to study" course was ranked first as the most valuable course for high school students. Students thought that this course would also have helped at the college level. Pertinent suggestions were made by students for making the general psychology course more interesting and more useful. About two-thirds of the group indicated that they liked the course even though it could and should be improved.

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## REGIONAL CONFERENCE OF A.E.R.A. TO BE HELD IN LOS ANGELES

Instead of the usual national annual conference of the AERA, the Association has scheduled three regional meetings for 1952. One of these will be held in Los Angeles at the time of the AASA regional conference, March 8-12, 1952. Serving on the program committee for the Los Angeles AERA regional conference will be: David G. Ryans, University of California at Los Angeles, Chairman; May V. Seagoe, also of UCLA; D. Welty Lefever, University of Southern California; Howard Bowman, Los Angeles City Schools; and Harry Smollenburg, Los Angeles County Schools. Suggestions for the Los Angeles regional conference should be sent to Dr. Ryans.

# Grade Placement of Secondary School Pupils in Relation to Age and Ability

GORDON FIFER  
Los Angeles County Schools

IN THE spring of 1949 the Los Angeles County Educational Research Council, composed of Directors of Research of the chartered cities and research personnel of the county office, planned an age-grade-ability survey of the secondary schools of the county. The idea for such a survey received wide acceptance from administrators of high school districts, and twenty-six of the twenty-eight secondary school districts participated in the subsequent study.

The study was designed and supervised by a committee of the Council under the chairmanship of the writer. Members of the committee were Dr. Georgia May Adams, Coordinator of Research, Pasadena; Mr. Carl Burk, Director of Curriculum and Research, Compton; Miss Lorene Fritch, Statistician, Glendale; Dr. Alice Horn, Consultant for the Evaluation Section, Los Angeles City; Dr. Alfred Lewerenz, Head Supervisor, Evaluation Section, Los Angeles City; and Dr. Arthur Tait, Director of Research, California Test Bureau.

## Purpose of Study

The purpose of the study was to determine whether there were any significant differences in the placement of secondary school pupils in regard to sex, age, or ability. Further, it was felt that any definite trends in drop-outs in regard to age, sex, or ability could be detected from such data.

Birthdates and intelligence quotients were submitted for each boy and girl in grades 8, 10 and 12. As complete data were submitted for boys and girls at grade 10.5, and for all pupils but without sex identification at grade 12.5, the analysis of findings was confined almost exclusively to these two levels.

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As the ages were computed from actual birthdates using age tables, the age data are as accurate as the school records of birthdates. It is recognized that the intelligence quotients submitted were derived from different mental tests, but as only two or three different tests were employed and as differences between these tests tend to fall within the standard error of any one of the tests, the Council felt the use of intelligence quotient intervals of ten points would be justifiable for broad interpretation.

## Findings

*Number of Pupils.* In regard to the number of pupils found at each grade level, there was noted a decrease of 3,889 or 16.1 percent in the total number of pupils from grade 10.5 to grade 12.5. No attempt was made to fix specific causes for this decrease as the variables involved are too numerous to control. Similarly, no attempt was made to explain the slight decrease in the percentage of boys from grade 8.5, through grade 10.5, to grade 12.5.

*Age of Pupils.* It may be noted in Table I that boys are older than girls at each grade level. A comparison of the various median ages with the ideal median age for each grade level indicates a decrease in average retardation as the grade increases. The ideal age column in Table I was derived by assuming one grade promotion each year for classes whose median ages upon entering the first grade were 6 years and 0 months.

TABLE I  
MEDIAN AGES IN YEARS AND MONTHS

Grades	Ideal	MEDIAN AGES		All
		Boys	Girls	
8.5 -----	13-5.0	13-10.1	13-7.9	13-8.8
10.5 -----	15-5.0	15-10.1	15-7.6	15-8.6
12.5 -----	17-5.0	17-8.5	17-6.7	17-7.3

TABLE II  
COMPARISON OF INTELLIGENCE QUOTIENTS BY SEX AND GRADE LEVEL

Grades	MEDIAN INTELLIGENCE QUOTIENTS		
	Boys	Girls	All
8.5 -----	103.2	105.0	104.1
10.5 -----	104.1	104.0	104.0
12.5 -----	106.5	105.2	105.3

An examination of the median intelligence quotients summarized in Table II, disclosed that although the boys have lower median I.Q.'s than have the girls in grade 8.5, they exceed at grade 12.5. The differences are slight, but a trend is indicated.

*Overeagerness and Underageness.* For this study "at grade for age" is taken as the ideal age shown in Table I plus or minus 9 months. One year overage is then defined as the interval from ideal age plus 10 months to ideal age plus 1 year 9 months. The other overage intervals and the underage intervals are similarly derived.

Table III shows the percent of pupils at grade, overage, and underage for grades 10.5 and 12.5. Several points might be mentioned: (1) A considerably larger percentage of boys are overage. Concomitantly, a slightly larger percentage of girls are underage. (2) There is a great deal more overageness for both boys and girls than there is underageness. (3) There is less overageness at grade 12.5 than there is at grade 10.5. (4) There is more underageness at grade 12.5 than at grade 10.5.

TABLE III

PERCENT OF BOYS AND GIRLS AT GRADE FOR AGE, OVERAGE  
AND UNDERAGE IN GRADES 10.5 AND 12.5

	Boys (11,795)	GRADE 10.5 Girls (12,338)	All (24,133)	GRADE 12.5 All (20,244)
Overage 2 or more years.....	3.9%	1.7%	2.7%	1.7%
Overage 1 year .....	24.9	14.7	19.7	14.0
At Grade for age .....	69.0	80.0	74.6	79.5
Underage 1 year .....	2.2	3.6	2.9	4.6
Underage 2 or more years.....	---	---	.1	.2
Totals.....	100.0	100.0	100.0	100.0

Taking the boys and the girls in grade 10.5 as two separate groups, Table IV shows the percent of each group who are at grade for age, overage, and underage in relation to ability. It may be noted from the vertical totals column that the I.Q. distribution for the group of boys is comparatively similar to the distribution for the girls with the exception that there are slightly larger percentages of boys at the two extremes. Several points may be noted in this table: (1) As might be expected, most overage boys and girls are below 100 I.Q. However, a considerable percent of the pupils are overage and have intelligence quotients above 100, and similarly many are overage and have intelligence quotients above 110. (2) There is a considerably larger percentage of boys who are overage than

there are girls. This is true in every I.Q. interval. (3) There is a larger percentage of girls at grade for age in each I.Q. interval with the exception of the interval of 120 I.Q. and above. In the latter interval the girls do not exceed the boys in the category at grade for age because (a) a smaller percentage of girls are above 120 I.Q., and (b) they exceed in the underage category. (4) With the exception of the interval of 120 and above, there is more overageness than underageness in each I.Q. group. (5) There are almost twice as many boys two years overage as there are boys one year or more underage.

TABLE IV

PERCENT OF BOYS AND OF GIRLS IN GRADE 10.5 AT GRADE FOR AGE, OVERAGE, AND UNDERAGE IN RELATION TO ABILITY

I.Q. INTERVAL	UNDERAGE 1 or More Years	AT GRADE FOR AGE	OVERAGE		TOTALS
			1 Year	2 or More Years	
120 and above					
Boys -----	.8%	10.8%	.5%	---	12.1%
Girls -----	1.2	9.8	.2	---	11.2
110-119					
Boys -----	.7	18.3	2.1	.2%	21.3
Girls -----	1.0	19.2	.8	---	21.0
100-109					
Boys -----	.5	21.7	5.9	.6	28.6
Girls -----	.9	25.6	2.8	.2	29.5
90-99					
Boys -----	.1	12.4	8.8	1.5	22.8
Girls -----	.4	18.2	5.3	.4	24.3
80-89					
Boys -----	---	4.7	5.5	.9	11.2
Girls -----	.1	6.1	4.1	.7	10.9
79 and below					
Boys -----	---	1.1	2.0	.6	3.7
Girls -----	---	1.1	1.5	.3	2.9
Totals					
Boys -----	2.2	69.0	24.9	3.9	100.0
Girls -----	3.6	79.9	14.7	1.7	100.0

Boys—N = 11,795

Girls—N = 12,338

## Conclusions

In terms of the purpose stated for the study, it may be concluded that there are significant differences in the placement of pupils in regard to age and sex, and slight differences in regard to ability. Further, slight trends



in drop-outs in regard to age, sex, and ability were noted. These differences in trends can be stated as follows:

1. Although total summaries indicate that from three-fourths to four-fifths of senior high school pupils are at grade for age, the pupils not at grade for age are almost all overage. In other words, there are considerably more retarded than accelerated pupils. At this point it may be well to mention that similar differences were found in the Elementary School Age-Grade Survey conducted by the Council in 1946. That is, approximately two-thirds of the pupils were at grade for age and considerably more pupils were overage than underage.
2. Of the pupils who are overage, a significantly larger percent are boys at all I.Q. levels.
3. The tendency for a higher percentage of boys than of girls to be overage is more pronounced for the I.Q. groups above 100 than for the slow learning or dull groups.
4. As the median I.Q. of the twelfth grade pupils is slightly higher than that of the tenth grade pupils, and as the median age of the twelfth grade pupils deviates less from the ideal median age than is true of the tenth graders, it may be suggested that there is a tendency for slow learning, overage pupils to drop out of school before their senior year. This is particularly marked for boys.
5. Although approximately two-thirds of the boys and over one-half of the girls who are very slow learning have been retarded one year or more, less than one-fifteenth of the boys and only about one-ninth of the girls who are in the very rapid learning groups have been accelerated. Furthermore, four percent of the bright boys and almost two percent of the bright girls have been retarded one or more years.

Looking at the results of the study in terms of the years of retardation, it was found that at the tenth grade level, counting the pupils who had been retarded one or more years, there was a total of 6,948 years of retardation. This figure does not include the pupils in semi-annual promotion districts who may have been retarded one-half year.

## Problems Posed

The findings of the study point up certain problems faced by secondary school educators:

1. How can more adequate provision be made for the dull, overage, high school pupil?
2. How can the excessive retardation of boys, particularly of bright ones, be decreased?
3. What are the factors contributing to this retardation?
4. As most bright pupils are not being accelerated, are their needs being met by keeping them at grade for age, or, in some instances, by retarding them?
5. Can the schools afford the amount of retardation that still exists?

## Recommendations

The Council recommended that the conclusions of the study be disseminated to teachers, supervisors, counselors, principals and other administrative personnel. It was further recommended that each secondary school faculty formulate through group discussion tentative answers in regard to its own situation to the questions raised above. A reexamination of the implementation of each school's promotion policy may be indicated. Statements of generally approved promotion policy are available in the *Guidance Handbook for Elementary Schools* and the *Guidance Handbook for Secondary Schools* and in a mimeographed report prepared by the Los Angeles County Research and Guidance Discussion Group. A copy of this report may be secured by addressing the Division of Research and Guidance, Office of Los Angeles County Superintendent of Schools, Room 408, 808 North Spring Street, Los Angeles 12.

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## Third Annual State Conference on Educational Research

FRANK W. PARR

Director of Research, California Teachers Association

THE Third Annual Conference on Educational Research, which was held at Santa Barbara, attracted 130 California Educators. The meeting was held on October 18 & 19 at the Mar Monte Hotel. The theme of the 1951 Conference was "Putting Research to Work." The program was arranged by a committee of which Hugh M. Bell, Chico State College, was chairman. The Conference was jointly sponsored by the State Advisory Council on Educational Research and the California Teachers Association.

At the opening of the Conference, several persons extended greetings. Einar W. Jacobsen brought greetings in behalf of the Santa Barbara City Schools; J. Harold Williams, Provost of Santa Barbara College, extended greetings as co-host; and Henry W. Magnuson, representing Roy E. Simpson, expressed the interest of the State Department of Education in the annual research conference.

A Conference overview was presented by Frank W. Parr, chairman of the State Advisory Council and director of research of the California Teachers Association. He reviewed the history of the annual state conference and paid tribute to the many persons who have contributed to its success.

The opening address of the Conference was given by William A. Brownell, dean of the School of Education, University of California, Berkeley. Speaking on the subject, "Are We Putting Research to Work?," Dr. Brownell cautioned against the using of research data and information before its validity is established. He contended that there is a tendency on the part of some people to base their school practices on studies that have never been thoroughly nor completely done. He used several illustrations to indicate the danger of basing school procedure on inadequate data and information. He made a plea for more carefully conducted researches.

## Section Meetings

Following Dr. Brownell's address, conference delegates had an opportunity to attend one of eight section meetings. These sections discussed the following topics:

- Section 1—Research in Teacher Education
- Section 2—Training Research Workers
- Section 3—Evaluation of In-service Training of Teachers
- Section 4—Coordination of Education Research
- Section 5—Designing Research for More Effective Test Norms
- Section 6—Pupil-Teacher Relationships
- Section 7—Follow-up Study of Pupils
- Section 8—Research in the Teaching of Arithmetic

Attendance at the sections varied from six to 30. Each section met twice, once in the morning and again in the afternoon, for a total discussion time of 3½ hours. In addition to a chairman, each section had a number of qualified consultants to lead the discussion. In each instance, the meeting was conducted informally and everyone had an opportunity to participate in the discussions.

## Conference Luncheon

The Conference Luncheon was presided over by Charles Bursch, III, of the University of California at Davis. After an introduction of guests, which included Dr. Walter S. Monroe, editor of the *Encyclopedia of Educational Research*, the chairman presented Herbert S. Conrad, chief, Research and Statistical Standards, U. S. Office of Education. Dr. Conrad spoke on the subject, "Research—Education's Gibraltar",<sup>1</sup> pointing out that educational research must be strengthened if it is to increase its contribution to educational policy and practice. He suggested that to

<sup>1</sup> Dr. Conrad's address appears as the feature article in this issue of the *Journal*.

achieve this goal, educational research must be made more practical. He then indicated how this could be accomplished.

### **Panel: "How Shall We Judge Our Schools?"**

An innovation at the Conference was the Friday evening panel at which Edwin A. Lee, dean of the School of Education, University of California at Los Angeles, presided. Serving on the panel were two college professors, a city school superintendent, a state PTA worker, a school trustee, and an official of the National Citizens Commission for the Public Schools.

Each member of the panel had an opportunity to present his ideas and suggestions as to how the schools should be judged. It was generally agreed that most parents in a community judge the schools by what they hear their children say about the program and the teachers. Current attacks upon the schools were analyzed as being promoted by groups that are primarily interested in curtailing the costs of education. It was recognized by panel members that much of the criticism of the schools reflects the need for a more functional public relations program. Audience participation indicated the keen interest in the panel discussion.

Following the panel session, a social hour for which the Department of Education of Santa Barbara College was host, was enjoyed by the Conference. A wind quartet was presented by the Music Department of the College. The music was greatly enjoyed by Conference attendants. Refreshments were served by Santa Barbara College students.

### **Ford Foundation Discussion**

The final session on Saturday morning featured an address by William T. Nims, assistant to the director, The Ford Foundation. Dr. Nims was introduced by Lucien Kinney, Stanford University, who presided at the session. Speaking on the subject, "The Program of the Ford Foundation," Dr. Nims explained the purpose of the Ford Foundation and described the various projects it has sponsored or approved. He made it clear that the Ford Foundation does not conduct research on its own; rather, it finances worthwhile research projects both here and abroad. Interest in Dr. Nims talk was evidenced by the many questions asked by members of the audience.

The Conference concluded with a brief business session. Plans for the 1952 Conference were discussed and an appraisal sheet was distributed to those present. Dr. Parr expressed appreciation to Santa Barbara College and to all of the people who had assisted in the Conference. He explained that a report of the Conference will be sent to all of those who attended the Santa Barbara meeting.

# Standards Required in the State College Building Program

RUEL J. TAYLOR

California State Department of Education

THE California State College building formula on room requirements and standards was adopted about 3 years ago in order that the projected units of college credits to be earned in each college subject could be translated into needed student stations. It was designed to give specific information to designers who were to master-plan the various state college campuses so that the designers and all other interested persons would know the type and content of each proposed building. It gives the total instructional rooms needed for the maximum enrolment assigned to each state college. (See *College and University Business*, November, 1950, for a more complete discussion.)

There seemed to be very little data available at that time for arriving at standards which show the area per student required in colleges and universities throughout the United States. One authority, *American School and University*, 1949-50, pp 81-91, makes the following statement concerning utilization of rooms: "It was further agreed that going above 75 to 80 per cent utilization (of classrooms) would endanger health and jeopardize maintenance." On p. 87, same article, "It was found there (University of Illinois) that prior to 1920, it (University of Illinois) had never fallen below 225 gross square feet per student. A study of other institutions revealed a range of 150 to 263 square feet per student."

A document entitled "College Building Needs" published by the Federal Security Agency in 1947 states as follows — p. 13: "If 1359 colleges succeed by 1950 in providing the additional buildings that they need, and reach the enrolments that they expect, they will at that time have only 182 square feet per student, which is 14 per cent less than was available in 1940". This same document states that in a survey conducted among 1359 colleges, those colleges in 1940 had an average

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Ruel J. Taylor is college plant advisor in the California State Department of Education. He had formerly taught law and served as administrative assistant in the Sacramento City Schools. He was awarded his Master's degree at the University of Southern California in 1941. He also had two years of legal training at the University of Michigan. His article is based on a talk which was presented at the 1951 meeting of the California Educational Research Association.

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of 210 square feet per student. The average given for those same colleges reporting in 1949 showed that because of the influx of veterans, there was then only 126 square feet per student. The article made the following statement — p. 17: "When the average is as low as Connecticut, Maryland, Ohio, West Virginia, Florida, Texas, California and Puerto Rico, the legislature and public officials should be made aware." This survey found that the colleges had a rather low percentage of room utilization which was largely the result of the manner of organizing the daily schedule, and that large colleges need relatively less space per student for academic purposes than small colleges.

Since this study was made, many colleges and universities have published utilization studies, and it is found that the average need per student is roughly 100 square feet of net instructional space per student. This criterion, as used at the University of California in its building program, applies to liberal arts colleges only.

### Present Study

A study was made by the writer after the state college master plans were complete to determine approximately the gross area per student called for in the master plans for the state colleges based on the drawings of existing buildings, college building specifications, and budget estimates. The purpose was to determine whether the area per student in state colleges of California would be in excess or out of line with the areas disclosed in the national survey. The following information was disclosed:

If the formula requirements are followed, and if the buildings remain unchanged from the area required for all the buildings proposed in the future for state colleges, none of the state colleges will exceed 190 square feet per student. It has been stated that the new Liberal Arts College at Riverside, California, a branch of the University of California, is now planned to house 1500, with 166 square feet gross area per student.

The California Department of Education formula on room requirements and standards was not conceived on an area-per-student basis, but rather on the number of rooms (teaching stations) required for each subject in each college. The area per student for each type of room varies with the capacity of the room and the type of equipment and furniture that goes into the room. Those two things determine space requirements for student space and nothing else. The Department of Education formula is a master planning device, and a guide and control in the building program. After these master plans were completed, a study was made

showing the total area called for in the master plan for each college. The total area in the nine colleges studied shows that the square foot area per student will run from 121 gross square feet per student to 190 gross square feet per student. The average area was 156 gross square feet per student.

An article recently published in *College and University Business*, May, 1950, entitled "Space Utilization" by W. T. Middlebrook, also may now serve as a guide in space requirements. Here are a few excerpts from that article: "The fall quarter enrolment at the end of second week, 1948 (at Minnesota University) was 24,843 and the gross area for instruction and research was 2,542,215 square feet or 102.3 square feet per student. *We believe this is substandard.* The instructional and research space now under construction or authorized totals 727,000 square feet, or 134.9 square feet per student on the basis of an enrolment of 24,000. *This, we believe is minimum.* We have set as our objective a 40 hour week use of classrooms. Classes, however, are scheduled over a 54 hour week. The 40 hour week in the light of industrial use is not an unreasonable objective."

In comparison to studies above mentioned in other institutions, and the study made by the United State Office of Education giving 182 square feet per student, it is believed that the plant objectives of the State Colleges of California are modest indeed.

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## FELLOWSHIP IN EDUCATIONAL MEASUREMENT AVAILABLE

The World Book Company is again offering a grant to the American Educational Research Association for a Fellowship in Educational Measurement for the year 1952-53. This fourth annual fellowship will provide a stipend of \$2,000. Interested candidates should write to Dr. Arthur E. Traxler, Educational Records Bureau, 21 Audubon Avenue, New York 32, New York.

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## IS SPELLING REFORM NEEDED?

Dr. Ernest Horn of the University of Iowa, in discussing the difficulties and inconsistencies of English spelling, contends that the word "circumference" may be spelled in more than 396,000,000 ways of utilizing, from other words known to sixth grade pupils, the spelling sounds that are identical, or nearly identical, with those in "circumference."



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## Book Reviews

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### **Psychology for Life Adjustment**

CHARLES R. FOSTER. Chicago: American Technical Society, 1951. 456 pages.

In the American Technical Society's 50th Anniversary Manuscript contest designed to stimulate research and to encourage the preparation of functional instructional material, *Psychology for Life Adjustment* was the 1951 First Award Winner. Counselors as well as students find it of value in orientation and guidance programs in the secondary schools.

The author proceeds on the theory that when one understands the reasons behind various types of behavior, he can guide his own actions more effectively. Problems of attitude, feeling, emotion and motivation are given emphasis in accordance with their importance in life adjustment.

The chapters on learning, thinking and reasoning bring together the basic scientific findings in these fields and present them in such a way that they will serve as study guides. Identification, repression, regression and other psychological concepts are taken out of their academic environment and applied to life situations.

Each chapter makes its unique contribution to life adjustment in terms of interesting and appropriate illustrative material, followed by stimulating questions. They cover the range from personal problems to occupations and job relations, with provision for evaluation at each level. Aside from the wide coverage in terms of the needs of youth, the author has never lost sight of values to be sought, a heretofore neglected area.

### **Surveys, Polls and Samples**

MILDRED PARTEN. New York: Harper and Bros., 1950.

Educators utilize survey techniques to a very large extent, and thus will welcome this volume. This book is for the practitioner. It is not concerned with theorizing or generalizing about polling, opinion studies, sampling methods, etc. Instead it outlines in detail the steps to be undertaken by the researcher who utilizes the survey technique in any one of its many variations. It is obvious that the author has drawn on many personal experiences since her descriptions of the hazards of making accurate reports on survey schedules is unusually rich in discussing the many pitfalls that may occur. The bibliography is extensive and very useful. This volume will undoubtedly replace older works as a standard reference in this field. Any educator undertaking any type of survey should consult this book and thus avoid some of the embarrassment and poor public rela-

tions that plague the schools from the publication of inaccurate or inconsistent data.

### **Improving School Holding Power—Some Research Proposals**

U. S. OFFICE OF EDUCATION. Federal Security Agency, Circular No. 291.

Washington: United States Printing Office, 1951. 86 pages.

This paper-bound publication presents the report of the Work Conference on Life Adjustment Education which was held at Chicago in February, 1951. The purpose of the Conference, which was sponsored by the U. S. Office of Education at the request of superintendents of schools of more than 200,000 population, was to clarify and refine research proposals for schools in large cities leading to improved holding power and pupil adjustment. Forty-six representatives of the large school systems attended and participated in the three day work conference.

Of special interest in the present publication are the reports of various large city school systems of practices used to reduce school drop-outs and to improve the holding power of the public schools. Another significant contribution is the development of uniform accounting procedures for reporting school drop-outs.

The publication will be of interest to school administrators who may wish to study the drop-out problem of their own schools. It also contains suggested research problems in this area which will be of interest to school research departments and to students in graduate schools of education. Copies of the report may be ordered from the United States Printing Office at a cost of 40 cents.

### **Teaching the New Arithmetic**

GUY M. WILSON. New York: McGraw-Hill Book Company, 1951. 483 pages.

This volume brings up to date a 1939 edition by the same author. According to the author, the book aims to develop a more rational view of arithmetic as a functional service tool in the lives of children and adults through emphasis on the main purposes of arithmetic and the limitations that need to be observed in order not to defeat these purposes.

The book is designed to show teachers or prospective teachers how to increase interest, understanding, and proficiency in arithmetic among students and thus eliminate pupil failure and discouragement. The teacher is shown proper limits on drill-mastery arithmetic and how to carry understanding and a mastery plan directly to the student. A definite attempt is

made to eliminate the "deadly grind" features of the study of arithmetic by leading the student to analyze a process, such as addition, the total facts, and then to drill purposefully and rationally for perfect scores.

Extensive study, involving new research, was undertaken by the author and his assistants to further extend and substantiate the ideas propounded in the earlier edition. This new edition will interest not only classroom teachers, but also those who supervise and direct instruction in the teaching of arithmetic.

## **Mental Hygiene in Teaching**

FRITZ REDL and WILLIAM W. WATTENBERG. New York: Harcourt, Brace and Company, 1951. 454 pages.

The present volume, prepared by two Wayne University professors has a specific objective: to bring teachers some basic principles of mental hygiene as they relate to the work of guiding young people in school. As the introduction indicates, the authors have drawn upon many common school situations to which mental hygiene principles apply. The situations are based largely on the experiences of the authors and on incidents related to them either by experienced teachers or student teachers in training.

The book is divided into five major sections. After two introductory chapters in Part A there follows, in Part B, chapters on behavior mechanisms, developmental psychology, and the influence of important factors on individual development. With these chapters as a background, the authors then consider certain trouble-breeding situations. Part B concludes with a discussion of the concepts of maturity, adjustment, and normality. Part C deals with ordinary classroom problems. Part D discusses special problems of the teacher; one chapter of which deals with the problem of giving assistance to those children who need special help or instruction.

The book can be used in a number of different ways. Some instructors may want to use it as a text in the traditional sense of the term. Some may choose to build the program of readings and discussions around individual studies of youngsters or group situations, made and reported by class members. The book also offers an opportunity for independent study to teachers who are no longer taking formal courses.

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## Research News and Views

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The California State Department of Education has recently issued a report of activities of its Bureau of School District Organization. The report, which covers the period of October 1, 1949, to February 1, 1951, is the first of the Bureau and describes the activities of school district reorganization in California. The report shows that the total number of school districts of all types decreased from 2,559 as of July 1, 1945, to 2,100 as of July 1, 1950. Most of the decrease was noted in the consolidation of independent elementary school districts. The report further shows that the corresponding number of districts as of July 1, 1951 was 2,049, a total decrease for the year of 51 districts.

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The 22nd annual bibliography on the methodology of research, prepared by Carter V. Good, appears in the September 1951 issue of the *Phi Delta Kappan*. Research studies, published between June 1950 and June 1951, are classified in the following four categories: (1) Problems, Issues, Trends, and Critiques; (2) Library Guides, Bibliographies, and Summaries; (3) Collecting, Analyzing, Interpreting, and Reporting Data; and (4) Organization, Supervision, Implementation, and Support of Graduate and Research Programs.

The same issue contains the report of the Phi Delta Kappa Commission on Support of Public Education entitled "Some Effects of Finance Policies and Practices on the Public School Program." Edgar L. Morphet of the University of California, Berkeley, was chairman of the Commission.

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Of special interest to school curriculum personnel will be the recent monograph, *How Children Use Arithmetic*, prepared by Effie G. Bathhurst of the U. S. Office of Education. Listed as Bulletin 1951, No. 7, the 13-page monograph shows how children develop arithmetic skills. It discusses teaching methods that grow out of recent research; it illustrates ways in which boys and girls are helped to enrich each day's experiences through arithmetic and to make the subject consciously a part of life. The bulletin is attractive in format and includes many basic facts relative to the teaching and learning of arithmetic in the modern school. Price of the monograph is 15 cents.

Making its initial appearance last September was a new magazine, *Idea and Experiment: A University at Work*, published by the University of California, Berkeley. According to the editors, the magazine will publish reports by members of the faculty of their theories, discoveries, and reflections. The first issue, 15 pages in length, carries the following four articles:

1. Rats and the Revolt Against Reason
2. Pacific Coast Maritime Shipping; Problems and Prospects
3. The Quick Decline Disease of Citrus in California
4. The Meson, a New Particle

*Idea and Experiment* will be published quarterly; the subscription rate is one dollar a year.

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*Job Analysis of Educational Personnel Workers* is the title of an interim report of the Study Commission of the Council of Guidance and Personnel Associations. Published by *Occupations—The Vocational Guidance Journal* in October 1951, the report contains detailed information regarding the work, qualifications, training, and relationships for each of the various personnel positions. The sources of data were colleges and universities, junior and senior high schools, and six public school systems in ten states. Copies of the report may be obtained from *Occupations*, 1424 Sixteenth Street, N.W., Washington 6, D.C.

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There are approximately 700 private elementary and secondary schools in the United States with enrollments ranging from 20 to 750 students, and a total enrollment of around 100,000 pupils. Tuition ranges for day students from \$200 in the lower grades to \$700 through grade twelve. In the boarding school, rates for full tuition including room, board, and extra-curricular activities range from \$800 to \$2000. The average day rate is reported to be about \$500, and the boarding average about \$1400. Private schools are situated throughout the country with the following geographical breakdown:

Middle-Atlantic states .....	36%
New England states .....	21
North-Central states .....	18
South and Southwestern states .....	16
West Coast states .....	9

The above facts are reported in a new directory, *Private Independent Schools*, by James E. Bunting of Wallingford, Connecticut.

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The California State Department of Education and the U. S. Office of Education have jointly sponsored a school facilities survey. The survey, which is directed by Dr. Drayton B. Nuttall of the State Department of Education staff, will have four phases:

1. A complete inventory of all public school facilities in the state together with information as to the condition and adequacy of each building.
2. A schedule of needed new buildings and additions to present buildings together with estimates of the cost thereof.
3. An examination of financial resources currently available to finance school plant.
4. The preparation of a proposed state program for school construction.

The survey has no direct bearing on current programs of financing school construction, either state or national. It has a more far-reaching and longer range purpose from both viewpoints. The data will be used in future consideration of school plant financing, in the program of school district reorganization, and in all phases of the tremendous problems relative to school plants still facing California.

From the federal viewpoint, the survey will provide data required by Congress prior to its further consideration of the provisions of appropriating federal funds for construction of school facilities.

The financing of the survey is on a 50 - 50 basis by the two agencies.

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As a tribute to Dr. T. C. Holy, who recently retired as director of the Ohio State University Bureau of Educational Research, the October 1951 issue of *Educational Research Bulletin* is devoted to a discussion of educational-survey work in which Dr. Holy played so prominent a part. Especially noteworthy in this issue is the article, "The School Survey and its Social Implications," by Walter D. Cocking. Dr. Holy also reviews the school survey movement in Ohio and points out some of its contributions.

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Science Research Associates has announced a new testing tool for elementary school use. To be known as *SRA Junior Inventory*, it is a reliable "needs and problems" checklist that educators can use to gather information about the kinds of problems children have — as children themselves reveal them. Prepared by H. H. Remmers of Purdue University and R. H. Bauernfeind of Carleton College, the *Inventory* is divided into five areas: health problems, social adjustment problems, school problems, personal adjustment problems, and problems in the home.

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The Board of Representatives of the American Council of Guidance and Personnel Associations presented its "Highest Award" for student personnel research published from June, 1946, to July, 1949, to Harold B. Pepinsky, Director of Student Counseling Bureau at Washington State College. The award was for his doctoral dissertation, "*The Selection and Use of Diagnostic Categories in Clinical Counseling*", published in 1948 as Applied Psychology Monographs, No. 15.

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An annotated bibliography, prepared by Henry Nash, Librarian at the Los Angeles Trade-Technical Junior College, should be of interest to educators in the junior college field. The bibliography, *Current Literature in Vocational Guidance*, does a good job of presenting pertinent facts and references in the field of vocational guidance. The 23-page pamphlet is available, single copies gratis, at the Los Angeles City Board of Education, Division of Extension and Higher Education, 451 North Hill Street, Los Angeles 12, California.

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Requirements for teacher certification in each State and Territory, and the District of Columbia, are reported in a new United States Office of Education publication. The bulletin, "A Manual on Certification Requirements for School Personnel in the United States," was prepared jointly by W. Earl Armstrong, associate chief for teacher education, Office of Education, and T. M. Stinnett, associate secretary, the National Commission on Teacher Education and Professional Standards of the National Education Association.

The bulletin presents, for what is believed to be the first time, a complete list of colleges and universities that are authorized by the various states and other areas to prepare teachers, along with a statement of the kind of preparation offered in each institution. The manual will serve two distinct purposes. First, it will give authoritative information to prospective teachers as to courses of study they should follow, and will offer definitive career planning guidance. Second, its comparative data will be useful to state legislators and educators throughout the country at a time when standards for teacher certification are prominent in the considerations of professional and lay groups interested in better schools.

Copies of the publication are available from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D.C. (182 pp.) Price, 70 cents.



